

## WHAT IS CLAIMED IS:

1. An endoluminal device delivery assembly for release and deployment of an endoluminal therapeutic device at a desired location for treatment within the vasculature of a patient, the endoluminal therapeutic device having proximal and distal portions, the endoluminal device delivery assembly comprising:

5                   an elongated flexible tubular catheter having a distal end;  
                  a tubular distal tip having a proximal end mounted to the distal end of said catheter, an inner lumen, and a distal end with a surface defining a distal opening, and said tubular distal tip being formed of a yieldable material for releasably holding the proximal end of the endoluminal device within the inner lumen of said tubular  
10               distal tip; and

                  means for dislodging the proximal end of the endoluminal device from said inner lumen of said tubular distal tip to expel the proximal end of the endoluminal device through said distal opening of said tubular distal tip at the desired location for treatment within the vasculature of a patient.

15               2. The endoluminal device delivery assembly of Claim 1, wherein said means for dislodging comprises an elongated pusher member coaxially disposed within the elongated flexible tubular catheter having proximal and distal ends, said proximal end of said pusher member extending from said proximal end of said elongated flexible tubular catheter, and said distal end of said pusher member being  
20               adapted to contact and dislodge said proximal end of said endoluminal device from said tubular distal tip.

3. The endoluminal device delivery assembly of Claim 2, wherein said distal end of said pusher member has a frustoconical shape.

4. The endoluminal device delivery assembly of Claim 2, further comprising a flexible coil mounted to the distal end of said elongated pusher member

5. The endoluminal device delivery assembly of Claim 4, wherein said flexible coil is formed from a shape memory polymer.

6. The endoluminal device delivery assembly of Claim 4, wherein said flexible coil is formed from a nickel titanium alloy.

7. The endoluminal device delivery assembly of Claim 1, wherein said distal tip forms a fluid seal about said proximal end of said endoluminal device, and said means for dislodging comprises a syringe connectable to said proximal end of said elongated flexible tubular catheter for supplying pressurized fluid within said elongated flexible tubular catheter to expel said proximal end of said endoluminal device from said tubular distal tip.

8. The endoluminal device delivery assembly of Claim 1, wherein the diameter of the distal end of the distal tip is smaller than the proximal end.

9. The endoluminal device delivery assembly of Claim 1, wherein said elongated flexible tubular catheter has a frustoconical distal end, and said distal tip has a corresponding frustoconical shape.

10. The endoluminal device delivery assembly of Claim 1, wherein said yieldable material comprises a shape memory material.

11. The endoluminal device delivery assembly of Claim 10, wherein said shape memory material is a shape memory polymer.

12. The endoluminal device delivery assembly of Claim 10, wherein said shape memory material is a nickel titanium alloy.

13. The endoluminal device delivery assembly of Claim 1, wherein

said yieldable material is an elastomer.

14. The endoluminal device delivery assembly of Claim 1, wherein said yieldable material is selected from the group consisting of polyurethane, nylon, and polybutyl terephthalate.

15. The endoluminal device delivery assembly of Claim 1, wherein said endoluminal therapeutic device is an embolic coil.

16. The endoluminal device delivery assembly of Claim 1, wherein said endoluminal therapeutic device has a stem portion with an enlarged proximal end captured within said inner lumen of said tubular distal tip.

17. A method of delivering an endoluminal therapeutic device into the vasculature of a patient, comprising the steps of:

5 providing an elongated flexible tubular catheter having a tubular distal tip mounted to the distal end of the catheter, said tubular distal tip having an inner lumen and a distal end with a surface defining a distal opening, and said tubular distal tip being formed of a yieldable material for releasably holding the proximal end of the endoluminal device within the inner lumen of said tubular distal tip; and

10 introducing a dislodging element into the proximal end of the elongated flexible catheter to dislodge the proximal end of the endoluminal device from said tubular distal tip to expel the proximal end of the endoluminal device through said distal opening of said tubular distal tip at the desired location for treatment within the vasculature of a patient.

15 18. The method of claim 17, wherein said step of introducing a dislodging element comprises introducing an elongated pusher member coaxially within the elongated flexible tubular catheter to contact and dislodge said proximal end of said endoluminal device from said tubular distal tip.

19. The method of claim 17, wherein said distal tip forms a fluid seal about said proximal end of said endoluminal device, and said step of introducing a dislodging element comprises connecting a syringe to said proximal end of said elongated flexible tubular catheter for supplying pressurized fluid within said elongated flexible tubular catheter to expel said proximal end of said endoluminal device from said tubular distal tip.